# Energy Policy Update

## Energy and Environmental News

## April 9, 2012

This newsletter is published by the Governor's Office of Energy Policy and is provided free of charge to the public. It contains verbatim excerpts from international and domestic energy and environment-related publications reviewed by the Education and Community Outreach personnel. For inquiries, call **(602) 771-1143** or toll free **(800) 352-5499**. Compiled and edited by Gloria Castro, Special Projects Coordinator. To register to receive this newsletter electronically or to unsubscribe, email Gloria Castro.

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**For your convenience, Arizona-related titles are highlighted in blue.**

## ARIZONA

### AZ Senate OKs Bill to Let Firms Do Own Enviro Audits Secretly

[Arizona Daily Star, Apr. 4] The state Senate easily approved a bill Tuesday that would allow companies to keep secret environmental audits they conduct of their operations. Approved on a 20-9 vote, the bill worries environmentalists. The Sierra Club dubs it the "polluter protection act." Supporters in the mining, utility and other industries say the audits will encourage businesses to search for pollution, particularly historical problems. They say it will particularly encourage smaller companies, and give them time to figure out how to clean up pollution cost-effectively.

### Arizona's Solar Energy Plans Vex Military

*Solar-tower, wind-turbine projects stir safety concerns*

[Arizona Republic, Apr. 7] A solar tower nearly twice the height of the Empire State building. Hundreds of spinning 200-foot-tall wind turbines. A 500-mile high-voltage power line from central New Mexico to southern Arizona. Those are among the projects the renewable-energy industry sees in Arizona's future. But for the U.S. military, that vision translates into fears of unusable airspace, equipment failures and plane-crash risks. Across the country, the burgeoning green-energy industry has faced military concerns about threats to the safety of its pilots and high-tech operations. Air Force officials, in particular, are wary. They say solar projects can obstruct flight paths and reflect sunlight into pilots' eyes, wind farms can jam radar, and transmission lines can disrupt testing equipment. Energy developers in states such as Oregon, Nevada and California have spent years and made costly changes to projects to satisfy military objections. No projects in Arizona have caused problems for military installations, but there are potentially dozens of energy-development plans on the state's horizon. Aggressive renewable-energy goals in Arizona and California, plus wide-open land and year-round sunshine that are attractive to the solar industry, mean military bases here could soon raise similar concerns. The potential problems echo drawn-out battles that have been fought in the Valley over encroachment of new housing subdivisions near Luke Air Force Base. For more than a decade, officials at the Glendale base warned of concerns about suburban rooftops rising nearby, and government officials moved to limit builders. When it

comes to renewable energy, the Pentagon effectively can kill any project by raising concerns during the permitting process. For example, structures taller than 200 feet require a Federal Aviation Administration permit. The FAA gets feedback from other government agencies, including the Defense Department and Homeland Security. If Defense says there is a conflict, the project is essentially dead.

### Cities May Seek Work-Arounds for Bill Seeking to Ban Sustainable Practices

[Phoenix Business Journal, Apr. 4] Cities may continue with sustainability initiatives even if a bill moving through the Legislature succeeds in banning certain government ties. Several cities said the bill, if passed and signed into law by the governor, likely would result in them doing the same things they are doing -- but in a different manner. “The reality is, it probably wouldn’t change how we do business here,” said Pat McDermott, assistant city manager of Chandler. Senate Bill 1507, introduced as a strike-through amendment by Sen. Judy Burges, R-Sun City West, seeks to ban cities, counties and the state from doing work associated with a treaty ratified through the United Nations in 1992. Known as the Rio Declaration on Environment and Development, the treaty was meant to lay the groundwork for cities to grow in more sustainable ways. The policy, however, has drawn concern from tea party officials and strict constitutionalists in the U.S. who fear the declaration is a challenge to U.S. sovereignty.

### Recycling of Textiles Gets Off to Good Start

*Chandler firm might expand Sun Lakes test*

[Arizona Republic, Apr. 6] Residents in Sun Lakes south of Riggs Road are participating in a pilot project of textile recycling, apparently the first such program in Arizona. The program, run by Chandler-based Phoenix Fibers, began March 28. Phoenix Fibers distributed blue recycling bags to all Sun Lakes residences south of Riggs Road. Participating residents put clothing, sheets, towels and other linens in a blue recycling bag, tie it and toss it into the container for recycling paper, aluminum and plastic. The bag goes into the Sun Lakes Disposal. About 19 percent of the bags were returned. It was such an encouraging response that business spokesman Larry Williams says the company likely will expand the textile recycling into Chandler or Queen Creek. "Our goal is to help deter the clothing that's going to landfills," Williams said. "We take it and turn it into insulation." The Sun Lakes recycling isn't benefiting just the environment. For every pound of textiles collected, the Boys & Girls Clubs of the East Valley receive a contribution from Phoenix Fibers.

### State Land Department, APS Partner on First-Ever Solar Facility to be Built on State Land

*Decision Reinforces Governor Brewer’s Commitment to Renewable Energy*

[Yahoo Finance, Apr. 3] Arizona’s State Land Department and Arizona Public Service are working in coordination to build the first-ever solar project on Arizona State Trust lands. Nearly 400 acres in Yuma County will soon be home to the 35-megawatt APS Foothills Solar Plant. The cost to APS for a 35-year lease on the land is $10 million, which will go primarily to help fund Arizona public education. The unprecedented decision to build this project on State land supports Arizona Governor Janice K. Brewer’s goals to facilitate and encourage renewable energy and economic development in Arizona. “This collaboration furthers our ongoing efforts to establish Arizona as a global leader in renewable energy,” said Governor Brewer. “The project will bring quality solar jobs to Arizona and dollars to support our state’s public schools – all while utilizing Arizona’s most abundant resource, the sun, to generate clean and renewable energy. It’s the first of many solar projects that will benefit the entire state and cement our status as the ‘Solar King.’ ” For the past eight months, the State Land Department has done extensive work to identify State Trust land sites suitable for solar development. With these locations in mind, State Land Commissioner Maria Baier approached APS about building a solar plant on State Trust land. This led to an independent assessment by APS to determine the most suitable development location for its next solar plant – which yielded the Yuma Foothills project site. The fit was ideal for Arizona and for the company. The result is APS’s fifth, and largest, AZ Sun project to date. The Foothills Solar Plant will have a capacity of 35 megawatts, or enough to power 8,750 Arizona homes. All the electricity produced from this facility will be used to serve local Yuma residents.

## ALTERNATIVE ENERGY AND EFFICIENCY

### 70bn IDB Capital Injection Will Boost Renewables in Americas

*A $70bn capital injection by the Inter-American Development Bank (IDB) is great news for green projects*

[Recharge News, Apr. 4] The Inter-American Development Bank (IDB) has approved increased lending for renewables projects. Its member countries voted to authorise a $70bn increase in the bank’s ordinary capital. And with a new mandate that 25% of the bank’s loans go to climate-related projects, renewable energy stands to benefit in a big way. “Thanks to this capital increase we will be in a better position to help our region in its efforts to develop more responsive governments, more inclusive economies, more liveable cities and more sustainable

environments," says IDB president Luis Alberto Moreno. The General Capital Increase (GCI) will become effective once countries deposit instruments of subscription for three quarters of the ordinary capital shares created under the GCI. Once it is fully implemented, the GCI will raise the bank's capital to $171bn, making it the world's largest regional development lender. With these additional resources, the IDB will be in a position to approve financing of about $12bn annually on average until 2021. Between 2002 and 2011, it approved an average of $8bn a year, excluding emergency lending. The IDB also provides about $700m in grants each year. The goal of the renewables mandate is to maintain Latin America's clean-energy supply, which is heavily dominated by hydropower, says Arnaldo Vieira de Carvalho, the organisation's lead sustainable-energy specialist. "This [the GCI] has really facilitated our conversation with countries in telling countries that the IDB is interested in investing in renewables," says Vieira de Carvalho.

**Alternative Smart Fuel Apps, Getting Green on the Road**

[Forbes, Apr. 4] Globally, the market for alternative fuels is doing quite well. In a recent *Clean Energy Trends 2012* report the combined global revenue for solar, wind power and biofuels rose 31 per cent over 2010, from $188.1 billion in 2010 to $246.1 billion in 2011. Biofuels revenues reached $83 billion in 2011, up from $56.4 billion in 2010. So it should come as no surprise that there is a bit of gold rush on alternative fuel apps making their way to your smart phone. Even the US government got involved, in 201o, the US Department of Energy launched an alternative fuel locator app designed to find fueling locations for your alternative fuels vehicle.

**Facebook Friends Compete to Lower Energy Use**

[CNET News, Apr. 3] Social media has officially come to energy efficiency. Opower today announced the availability of a Facebook application that lets people track electricity use and communicate with friends around home energy. People can set up different groups of friends and compare themselves to similar homes or the most efficient homes. Sixteen utilities in the U.S. (see list here) are participating in a program which feeds utility bill information directly into Facebook, allowing a person to see total kilowatt-hour usage. Others will need to manually input monthly energy data to compare to regional average and participating friends.

**Mapping the Nebraska Grasslands for Biofuel Potential**

[ENN, Apr. 3] At the moment, America's number one crop for producing biofuel is corn. However, naturally growing plants like switchgrass also have great potential as a biofuel crop because they do not require much, if any, inputs such as watering, fertilizing, or pesticides. To date, it has been difficult to find the ideal location for harvesting the right grasslands to make it economically feasible. To help in this effort, the US Geological Survey (USGS) has developed a new method for mapping grasslands. The maps created will help locate the areas with the highest potential for cultivating biofuel crops, which also require the least amount of energy input and minimal environmental impact. USGS scientists investigated the grasslands of the Greater Platte River Basin using remote sensing data from satellites. This area covers most of Nebraska as well as parts of adjacent states. The goal was to find the areas best suited for harvesting switchgrass which in turn produces cellulosic biofuel.

**NYC Focus: New World Trade Center Serves as Model for Urban Energy Efficiency**

[Alliance to Save Energy, Apr. 2] In the wake of the terrorist attacks that destroyed the World Trade Center (WTC) on Sept. 11, 2001, New York City officials and building planners set out to rebuild the complex to greater heights – and greater energy efficiency. The new World Trade Center complex will feature a stunning array of energy-efficient design techniques and America's most innovative, energy-efficient technologies. So far, one office tower and a 9/11 memorial (square fountains within the footprints of the fallen towers) are complete. Four more towers, a 9/11 museum, a performing arts center, and a transportation hub as big as Grand Central Station are expected to be completed as soon as 2015. And all are designed to top-notch energy efficiency standards.

**Natural Gas Glut Means Drilling Boom Must Slow**

*The U.S. natural gas market is bursting at the seams.*

[Associated Press, Apr. 8] NEW YORK – The U.S. natural gas market is bursting at the seams. So much natural gas is being produced that soon there may be nowhere left to put the country's swelling surplus. After years of explosive growth, natural gas producers are retrenching. The underground salt caverns, depleted oil fields and aquifers that store natural gas are rapidly filling up after a balmy winter depressed demand for home heating. The glut has benefited businesses and homeowners that use natural gas. But with natural gas prices at a 10-year low - and falling - companies that produce the fuel are becoming victims of their drilling successes. Their stock prices are falling in anticipation of declining profits and scaled-back growth plans. Some of the nation's biggest natural gas producers, including Chesapeake Energy, ConocoPhillips and Encana Corp., have announced plans to slow down.

### Solar Leases Attracting New Demographic

[RenewableEnergyWorld.com, Apr. 6] Washington, D.C. -- The sun is shining on homeowners in less affluent neighborhoods who are discovering they can afford solar energy after all — by leasing rather than buying the panels on their roofs. The new business model lets homeowners save money the very first month, rather than breaking even a decade after an initial investment of $5,000 to $10,000. Analysts with the U.S. Department of Energy's (DOE) National Renewable Energy Laboratory (NREL) found that the solar lease business is surging in southern California. And the model is being adopted in less affluent neighborhoods that had avoided customer-owned systems. The NREL study found a positive correlation between customers outright buying solar energy systems and customers living in neighborhoods where the average household income was $150,000 or more. But for third-party-leased solar panels, that positive correlation appeared in neighborhoods where the average household income was just $100,000 or more. The study did not look at individual adopters, who can have many different reasons for installing solar. Still, the study strongly indicates an attraction for third-party leasing in neighborhoods with less affluence than those most likely to go for the customer-owned option.

## ENERGY/GENERAL

### BPI Introduces Four New Home Energy Professional Certifications

*Registration Now Open for Pilot Exams to be Offered in June 2012*

[Building Performance Institute, Mar. 12**]** Malta, NY **–** In June 2012 the Building Performance Institute, Inc. (BPI) will introduce four new Home Energy Professional certifications to the nation's weatherization and home performance workforce. Offered by BPI and funded by the U.S. Department of Energy (DOE) and its National Renewable Energy Laboratory (NREL), the four certifications focus on the most common job classifications in the home energy upgrade industry: energy auditor, retrofit installer, crew leader and quality control inspector. "The weatherization and home performance industry has long seen the need for nationally recognized, transferable certifications for workers employed by the Weatherization Assistance Program and the broader home performance industry," said Larry Zarker, BPI CEO. "A successful candidate from one geographic region will be verified as having the same knowledge and skills as a successful candidate from the other side of the country. This mobility allows certified professionals to go wherever the work is. The development of a single, consistent set of national certifications for home performance professionals will help to remove any existing confusion in the marketplace." The new credentials will meet the international benchmark for personnel certifications across all industries - the International Organization for Standardization's (ISO 17024) standard. Under ISO 17024, each new certification is developed and administered using international best practices, such as cross-disciplinary peer review and industry validation of technical materials.

### Coal Consumption Drops to Lowest Level Since 1996

*Natural gas gains ground, but what will it take for renewables to be a part of the conversation?*

[Green Tech Media, Mar. 30] New estimates by the U.S. Energy Information Agency predict that coal consumption in 2012 will fall to the lowest levels since 1996. That is in line with earlier figures from the EIA that found coal generation was at a 30-year low in 2011. The amount of coal consumed by the electricity industry dropped by about 5 percent this year, falling to the lowest level since 1995. Unlike the falling figures during the recession, the decline has more to do with natural gas. The EIA reported that the power sector's demand for natural gas was about 9 percent in 2011, a record high.

## INDUSTRIES AND TECHNOLOGIES

### A Competitor Emerges for Solar Panels

[New York Times, Apr. 4] AUSTIN, TX – Of all the types of energy embraced by the green community, "combined heat and power" probably has the clunkiest name. But proponents hope that C.H.P. systems, which can be installed in homes, will one day compete with better-known technologies like solar panels. The idea is to capture two forms of energy at once, namely heat and electrical power (which is why the technology is sometimes called cogeneration). Large systems exist on college campuses like the University of Warwick in England and also at hospitals, chemical factories and even airports. These systems use the heat left over from generating electricity to produce either hot water, which circulates through pipes to nearby buildings to provide heat, or steam, which can be used for industrial purposes. Because the process of making electricity wastes a lot of energy, combining heat and power generation leads to greater efficiencies, said Jürgen Weiss, head of the climate practice at the Brattle Group, a consulting firm based in Cambridge, Massachusetts. "The idea of C.H.P. is to make electricity and not waste the heat that gets generated in the process, but rather to use it for something useful," Mr. Weiss said. That means lower utility bills and fewer greenhouse gas emissions.

### Biogas Technology: "Cow Power" Catching On in US

[RenewableEnergyWorld.com, Apr. 4] For years, third world ranchers have been using methane from manure to run electrical generators down on the farm. This clean-burning biogas is not only a good local fuel in countries with little or no infrastructure, now even countries like the U.S. are reaping energy from this foul-smelling source. Some 80 percent of the estimated 160 biogas energy projects in the U.S. are currently installed on dairy farms, which then combust the gas to generate electricity. The combined installed capacity of all dairy farm projects is nearly 60 MW. It's a complicated process. First the farms have to facilitate both the production and collection of biogas in anaerobic digesters. These are processing systems that allow methanogenic bacteria to feed on the manure's natural acids in a very oxygen-depleted environment. In turn, the bacteria both generate methane-rich biogas and reduce the manure's foul odor by as much as 90 percent. After collection from storage systems such as covered lagoons — akin to large swimming pools very nearly brimming with manure — this gas is usually piped to an electrical power generator. Although a large portion of the U.S.' biogas energy projects are found in New York, Pennsylvania, Vermont, and Wisconsin, they represent only a fraction of the estimated 8,000 farms out there that could support some method of biogas energy production. By some estimates, the total electrical capacity of all these farms could range as high as 1,600 MW. That's about 10 percent of the U.S.' current electricity needs.

### Market for Deep Ocean Energy Heats Up

[Forbes, Mar. 31] A technology that could provide electricity to naval bases and islands with the use of super-cold seawater is finally gaining momentum after a hiatus of more than 30 years. The action is in the Bahamas, where the local utility has signed an agreement with a Pennsylvania company to build two 10-megawatt commercial-scale plants, the first of their kind in history. Meanwhile, established military contractors like DCNS and Lockheed Martin are making progress on their own power plants. Even more intriguing is that the Bahama builder, OTE Corporation, plans to pipe far more cold seawater to land than is needed to create power. This rush of cold may allow the archipelago to run water desalination plants or to grow commodities that otherwise wouldn't thrive in a warm climate, like salmon or berries. The technology, known as ocean thermal energy conversion (OTEC), creates electricity with the temperature difference between warm and cold seawater. Cold water is drawn with a pipe from depths of a 1,000 meters or more, where the sun's heat can't reach. Meanwhile, warm seawater is sucked from near the surface. The warm seawater is run through a heat exchanger with a chemical with a low boiling point, like ammonia, which creates chemical steam that runs an electrical turbine. Then the steam is condensed back to liquid form with the chilled seawater. OTE Corporation's design for an onshore OTEC plant. Scientists have entertained the idea of OTEC since the 19th Century and Lockheed Martin created a working model during the 1970s energy crisis . But the budding market withered in the 1980s as fuel prices dropped. Now, with energy prices rising again, OTEC is back. Ted Johnson, a veteran of those early Lockheed experiments, is a senior vice president at OTE Corporation. Johnson told me that OTEC systems are becoming cost competitive because the technology for pipes, heat exchangers and other equipment has improved greatly, thanks in part to innovations by the oil and gas industry. Meanwhile, creating electricity on remote islands is expensive as ever. OTE Corporation expects to build the plants on shore at a cost of about $100 million each and run them for the duration of a 25- to 30-year power purchase agreement, said CEO Jeremy Feakins. Next year, the company plans to begin construction on a similar project that would pipe cold seawater to cool Baha Mar, a luxury resort being financed and built by China. That project is expected to reduce the cost of air conditioning by 80 to 90 percent and open in 2014.

### Solar Moves into CPV's 'Sweet Spot'

[RenewableEnergyWorld.com, Apr. 5] New Hampshire, U.S.A. – The solar industry is moving to the south, and for concentrating photovoltaics (CPV), this is a good thing. While northern climes like Germany and Japan have traditionally soaked up the majority of the traditional flat plate PV installations, the intense solar areas to their south have made little headway in project development. But there's a shift underway as the solar industry begins to branch out from its political strongholds to the north and into the areas where the sun shines the strongest. Solar remains a virtually untapped source in India, Africa and the Middle East. Just as lucrative is the potential in Latin America, where energy needs are surging and the renewable resources are becoming too obvious to pass up. CPV is a young industry with relatively few projects in the ground. What it lacks in a track record, though, it makes up for in other ways. Certain locations from Mexico to Chile have exactly what CPV is after — high Direct Normal Irradiance, or DNI. The technology was designed for these regions, and now the industry is working to build a market that can support its product. While silicon-based PV panels, and to some extent thin films, become less efficient in high levels of direct sunlight and scorching temperatures, CPV continues to thrive. On trackers, it follows the sun and filters its direct sunlight through optical devices, which concentrate sunlight on tiny, highly efficient cells. So far, the biggest markets have been in places like Spain and the Southwestern United States. But developers will surely follow the resource, and the hunt for projects could eventually create a

beaten path along the Western edge of Latin America.

### U.S. Manufacturing Grows as Output, Employment Rise

[Associated Press, Apr. 2] Washington, D. C. – U.S. factories stepped up hiring and production in March, the latest evidence that manufacturing is growing at a healthy pace and fueling the recovery. The report shows "that the economy is still locked on a very gradual healing trajectory," said Steven Ricchiuto, chief economist at Mizuho Securities. The Institute for Supply Management, a trade group of purchasing managers, said Monday that its index of manufacturing activity rose to 53.4 in March. That's up from 52.4 in the previous month. Readings above 50 indicate the sector is expanding. A measure of manufacturing employment rose to a nine-month high, a sign that factories are hiring more workers. Manufacturers are already a big source of job gains. They've added more than 100,000 jobs in the past three months, about one-seventh of all net gains.

## LEGISLATION AND REGULATION

### EPA Proposes Carbon Dioxide Emissions Standards for New Fossil Fuel Power Plants

[ENN, Apr. 9] On March 27, the U.S. Environmental Protection Agency (EPA) proposed a rule limiting carbon dioxide ($CO_2$) emissions from new power plants fired by fossil fuels such as coal or natural gas. The rule applies to new fossil fuel-fired electric utility generating units in the continental United States; it does not apply to existing units or new transitional units that already have received preconstruction air emission permits and that start construction within 12 months of the proposed rule's publication in the Federal Register. Covered power plants would be required to meet an output-based standard of 1,000 pounds of $CO_2$ per megawatt-hour. This standard is expected to favor natural gas over coal. EPA states that "new natural gas combined cycle power plant units should be able to meet the proposed standard without add-on controls." By contrast, coal-fired power plants would not be able to meet this standard without carbon capture and storage technology, which is still under development and is expected to be quite costly.

### New Round Of U.S. Green Energy Loans?

[UPI.com, Apr. 6] WASHINGTON – The U.S. Energy Department said it is preparing to approve more federal loan guarantees for green energy projects. The development comes amid controversy over the Obama administration's clean energy investments, after California solar-panel firm Solyndra, recipient of a $535 million U.S. Department of Energy loan guarantee, went bankrupt last year. Developers of about three dozen projects in the loan guarantee pipeline but that weren't approved in time for last year's Sept. 30 deadline are eligible for loan guarantees under a separate program that funds innovative clean energy projects, the department said.

## WESTERN POWER

### Advanced Power-Grid Research Finds Low-Cost, Low-Carbon Future in Western U.S.

[ScienceDaily, Apr. 3] The least expensive way for the Western U.S. to reduce greenhouse gas emissions enough to help prevent the worst consequences of global warming is to replace coal with renewable and other sources of energy that may include nuclear power, according to a new study by University of California, Berkeley, researchers. The experts reached this conclusion using SWITCH, a highly detailed computer model of the electric power grid, to study generation, transmission and storage options for the states west of the Kansas/Colorado border. The model will be an important tool for utilities and government planners. "Decarbonization of the electric power sector is critical to achieving greenhouse gas reductions that are needed for a sustainable future," said Daniel Kammen, Distinguished Professor of Energy in UC Berkeley's Energy and Resources Group. "To meet these carbon goals, coal has to go away from the region." To achieve this level of decarbonization, policy changes are needed to cap or tax carbon emissions to provide an incentive to move toward low-carbon electricity sources, Kammen and the other study authors said. While some previous studies have emphasized the high cost of carbon taxes or caps, the new study shows that replacing coal with more gas generation, as well as renewable sources like wind, solar and geothermal energy, would result in only a moderate increase to consumers in the cost of electric power -- at most, 20 percent. They estimate a lower ratepayer cost, Kammen said, because the evolution of the electrical grid over the next 20 years -- with coordinated construction of new power plants and transmission lines -- would substantially reduce the actual consumer cost of meeting carbon emission targets.

### California Leads Way as US Geothermal Adds 2011 Capacity

*The U.S. geothermal industry added 90.5MW of installed capacity in the 15 months through 31 March, bringing nationwide capacity to 3.18GW, according to a report by the Geothermal Energy Association (GEA), a trade group.*

[Recharge News, Apr. 3] Geothermal development in 2011 and first quarter this year included Energy Source's 49.9MW Hudson Ranch I project in California, three Nevada projects led by Ormat Technologies' 18MW Tuscarora facility and in Hawaii, where Ormat completed its 8MW Puna Expansion. California dominates the industry with 2.61GW of installed capacity through March, followed by Nevada 469MW, Hawaii 43MW and Utah 42MW, according to the report. Geothermal electric power was also being generated in Alaska, Oregon, Utah and Wyoming. Looking ahead, GEA says 130 projects are under development representing between 4.11GW and 4.52GW of geothermal resources in 15 states. Nevada and California lead the list with 59 and 32 projects, respectively, followed by Oregon 15, Idaho and Utah 11, and Alaska 6. The implementation of binary geothermal technology has enabled the industry to develop lower temperature resources, which has expanded the geothermal industry's geographical footprint beyond California, especially in the last decade. "

### Los Angeles Set to Launch a Feed-in Tariff Program

[RenewableEnergyWorld.com, Apr. 4] A feed-in tariff may never become a federal mandate, but it's enjoying a wider support among some local — particularly municipal — utilities these days. To wit: Los Angeles City Council on Tuesday approved a feed-in tariff program that will enable the Los Angeles Department of Water and Power to buy renewable electricity from projects up to 3 MW. The vote makes it possible for a utility to execute standard contracts with renewable energy generation owners without first seeking the city council's approval. The mayor will need to sign off on the ordinance by April 13 before it takes effect. The program will start with a 10-MW pilot phase and reach 75 MW by 2016, and it could expand to 150 MW depending on how much interest the program draws and the city's budget. The utility will spend the next several months working on rate setting, which will be based on bids submitted by applicants. The power it gets through the program will count toward its goal of getting 33 percent of its electricity from renewable sources by 2020. The FIT isn't the first renewable energy incentive program in Los Angeles, which offers rebates for solar electric system installations at homes and businesses. The rebate program, re-launched last September, has been so popular that the city has given out all of the budgeted allocation for non-residential systems for the current fiscal year, which ends on June 30. Feed-in tariffs are responsible for igniting a solar energy boom in European countries such as Germany and Italy, as well as Canada's Ontario province. China started its own last year and Japan, scarred by the nuclear disaster from last year, is set to start a feed-in tariff program this July.

### NM Among Solar Energy Leaders

[Associated Press, Apr. 9] A new report says New Mexico is among the nation's leaders in production of electricity from solar power. The Solar Energy Industry Association says New Mexico ranked fourth nationally last year in photovoltaic solar system installations by residential and commercial customers and utilities. Those projects provided 116 megawatts of power. California, New Jersey and Arizona were ahead of New Mexico. New Mexico ranked seventh in 2010. The state Public Regulation Commission attributes part of the growth to New Mexico's requirements that utilities generate part of their electricity from renewable sources such as solar energy. The federal government also has provided grants and tax credits for solar energy projects. The PRC said New Mexico ranks first in the nation in amount of installed solar power generation per person

### Tiny Washington PUD Prepares for Legal Fight with California Over RPS

[Energy Prospects West, Apr. 3] Public Utility District No. 1 of Cowlitz County, Wash. has taken the initial step in what could be the first legal challenge to the restrictions California's renewables portfolio standard puts on imported renewable energy. The utility filed paperwork March 27 that allows it to seek $10 million in damages from the California Public Utilities Commission for failing to rule on a wind contract the utility signed with Pacific Gas and Electric Co. in 2010. In addition to seeking damages, the lawsuit would challenge California's RPS, claiming the rules favor in-state generators, a violation of the Interstate Commerce Clause of the U.S. Constitution.

## ARIZONA STATE INCENTIVES/POLICIES

**Arizona Commerce Authority (ACA)**

- Angel Investment Tax Credit Program The main objective of the Angel Investment program is to expand early stage investments in targeted Arizona small businesses. The program accomplishes this goal by providing tax credits to investors who make capital investment in small businesses certified by the Arizona Commerce Authority (ACA). To view the list of businesses that have been certified under this program please click here.

**Income Tax Credit Provisions**

An investor seeking an income tax credit must document to the ACA the investment was made in either a qualified rural or bioscience company or any other qualified small business. For a qualified bioscience or rural company, the tax credit may total up to 35% of the investment amount over three years; for any other qualified

business, the tax credit may total up to 30% over three years. If the tax credits exceed the investor's income tax liability, any unused tax credit amount may be carried forward for up to three taxable years as long as the investor timely claims the credits with Revenue.

The ACA may authorize up to $20 million in tax credits to qualified investors beginning July 1, 2006 through June 30, 2016. The tax credits will be authorized on a first come, first served basis, which is established by the date and time the investor files an application with the ACA. Download the Angel Tax Credit Allocation Table Angel Tax Credit Allocation Table to view the remaining amount of tax credits available. For more detailed information please see below or direct questions to the Program Manager.

- Job Training Program offers job specific reimbursable grants for employers creating new jobs or increasing the skill and wage level of their current employees. **Deadline: Year Round**

- Quality Jobs Tax Credit Program Beginning July 1, 2011, this new program provides Arizona income tax credits for companies creating new jobs and investing in Arizona. The credit is valued at up to $9,000 over a 3-year period per each new employee and offers a 5-year carry forward provision for any unused tax credits. Eligibility qualifications are different for rural and metro areas

- Renewable Energy Tax Incentive Program offers a refundable income tax credit and property tax reduction to companies in solar, wind, geothermal and other renewable energy industries who are expanding or locating a manufacturing or headquarters operation in Arizona. The tax credit is up to 10% of the total qualified investment amount and the property tax benefit can reduce a company's property taxes by up to 75%. **Deadline: Year Round**

- Research and Development Tax Credit is an Arizona income tax credit for increased research and development activities conducted in this state. Starting in 2010, a qualifying company may be eligible to claim a partial refund of its current year excess R&D credit. **Applicants may apply at the end of their tax year but prior to filing a tax return with Revenue.**

- Commercial/Industrial Solar Energy Tax Credit Program - The primary goal of the Commercial/Industrial Solar Energy Tax Credit Program is to stimulate the production and use of solar energy in commercial and industrial applications by subsidizing the initial cost of solar energy devices. The program achieves this goal by providing an Arizona income tax credit for the installation of solar energy devices in Arizona business facilities. For more detailed information please see below or direct questions to the Program Manager.

- **Database of State Incentives for Renewables and Efficiency (DSIRE)**
  - Arizona Incentives/Policies
  - Federal Incentives/Policies
  - Solar Policy News - DSIRE provides summaries of current solar policy developments and an archive of past solar policy developments. Current solar news appears below the news archive, which is searchable by several criteria.

## GRANTS

**The following solicitations are now available:**

### Biomass Research and Development Initiative (BRDI)

Description: This FOA is a joint effort between the U.S. Department of Agriculture (USDA) and the U.S. Department of Energy (DOE) for fiscal year (FY) 2012 BRDI which requires that funded projects integrate all three legislatively mandated technical areas. These areas include (A) Feedstocks development, (B) Biofuels and biobased products development, and (C) Biofuels and biobased products development analysis.

A. Feedstocks Development ¿ Research, development, and demonstration activities regarding feedstocks and feedstock logistics (including harvest, handling, transport, preprocessing, and storage) relevant to production of raw materials for conversion to biofuels and biobased products.

B. Biofuels and Biobased Products Development - Research, development, and demonstration (R,D,&D) activities to support:

(i) Development of diverse cost-effective technologies for the use of cellulosic biomass in the production of biofuels, bioenergy, and biobased products; and

(ii) Product diversification through technologies relevant to the production of a range of biobased products (including chemicals, animal feeds, and cogeneration power) that potentially can increase the feasibility of fuel production in a biorefinery.

C. Biofuels and Biobased Products Development Analysis ¿ The intent of this section and integrating Technical Areas A, B, and C is to apply systems evaluation methods that can be used to optimize system performance and market potential and to quantify the project's impact on sustainability; therefore, successful applications will consider the life-cycle (cradle-to-grave) impacts including environmental, social, and economic implications that are attributable to the project. Successful projects should include these sustainability data in engineering process models and be used over the life of the project to improve the system and quantify sustainability impacts. Reference Number: DE-FOA-0000657. Issue Date: 03/22/2012. Response due: 04/24/2012 05:00 PM ES For more information, visit https://www.fedconnect.net/FedConnect/MemberHome/Opportunity/OpportunitySummary.aspx

**NEW! Energy Storage SBIR/STTR FOA**
The Advanced Research Projects Agency-Energy (ARPA-E) is an agency within the Department of Energy (DOE) that has funded the development and deployment of transformational and disruptive energy technologies and systems since 2009. ARPA-E focuses on high-risk concepts with potentially high rewards. When it established ARPA-E, Congress directed ARPA-E to: (1) enhance the economic and energy security of the United States through the development of energy technologies that result in reductions of imports of energy from foreign sources, reductions of energy-related emissions, and improvements in the energy efficiency of all economic sectors; and (2) ensure that the United States maintains a technological lead in developing and deploying advanced energy technologies. This program seeks to fund the development of transformational technologies that reduce the barriers to mass adoption of electrical energy storage for stationary and transportation applications. To obtain a copy of the Funding Opportunity Announcement (FOA) please go to the ARPA-E website at https://arpa-e-foa.energy.gov. Reference Number: DE-FOA-0000674 Response Due Date: 5/23/2012 5:00:00 PM ES Use the following link to view this opportunity: https://www.fedconnect.net/fedconnect?doc=DE-FOA-0000674&agency=DOE

**NEW! SBIR/STTR FY 2012 Phase I (Release 3)**
This Funding Opportunity Announcement (FOA) describes Phase I funding opportunities for the Small Business Innovation Research (SBIR) and the Small Business Technology Transfer (STTR) programs for Fiscal Year 2012 Phase I (Release 3). Reference Number: DE-FOA-0000715 Response Due Date: 7/3/2012 11:59:00 PM ES Use the following link to view this opportunity: https://www.fedconnect.net/fedconnect?doc=DE-FOA-0000715&agency=DOE

**Office of Science**
The U.S. Department of Energy announces its continuing interest in receiving applications for the Office of Science Financial Assistance Program. Areas of interest include, but are not limited to: Basic Energy Sciences and Biological and Environmental Research, and Workforce Development for Teachers and Scientists. Subtopics include Solar Photochemistry Research, and Climate Sciences. $400 million expected to be available, multiple awards anticipated. Responses due 9/30/12. For more info, contact Kimberlie Laing at kim.laing@science.doe.gov or go to: https://www.fedconnect.net/fedconnect/?doc=DE-FOA-0000660&agency=DOE. Refer to Sol# DE-FOA-0000600. (Grants.gov 9/30/11)

**U.S. Navy Energy Conservation Projects**
The Naval Surface Warfare Center has issued a Broad Agency Announcement for White Papers that address Energy Conservation Applications for the U.S. Navy. This BAA solicits innovative concepts for Navy shipboard energy conservation and carbon footprint reduction with the potential for rapid transition to Fleet operation. The target segment of the Fleet is the ships operated by Military Sealift Command. Responses accepted to 10/31/12. The selection of one or more sources for full proposals and potential contract award will be based on responses to the BAA and the peer review process. For more info, contact Jamie Mattern at james.g.mattern1@navy.mil or go to: https://www.fbo.gov/?s=opportunity&mode=form&id=f4ea9da536f0413f20b80d9f02707b7e&tab=core&_cview=0. Refer to BAA# N00167-11-BAA-01. (FBO 11/3/10)

**Agriculture and Food Research - Climate Change**
The U.S. Department of Agriculture requests proposals for the Agriculture and Food Research Initiative (AFRI) - Climate Change. The AFRI Climate Change Program will fund projects focused on reducing greenhouse gas emissions and increasing carbon sequestration in agricultural and forest production systems and preparing the nation's agriculture and forests to adapt to changing climates. The RFP is posted at: http://nifa.usda.gov/funding/rfas/afri_rfa.html. Refer to Sol# USDA-NIFA-AFRI-003038. (Grants.gov 3/22/10)

**Agriculture and Food Research Initiative - Sustainable Bioenergy**
The U.S. Department of Agriculture requests proposals for the Agriculture and Food Research Initiative (AFRI) – Sustainable Bioenergy. This program will support projects that target the development of regional systems for the sustainable production of bioenergy and biobased products that: contribute significantly to reducing dependence on foreign oil; have net positive social, environmental, and rural economic impacts; and are compatible with existing agricultural systems. The RFP is posted at: http://nifa.usda.gov/funding/rfas/afri_rfa.html.
Refer to Sol# USDA-NIFA-AFRI-003042. (Grants.gov 3/22/10)

**Agriculture & Food Research Initiative - Foundational Programs**
The U.S. Department of Agriculture requests proposals for the Agriculture and Food Research Initiative – Foundational Programs. The Foundation Programs support research, education, and extension as well integrated programs that address key problems of national, regional, and multi-state importance in sustaining all components of agriculture. Areas of interest include, but are not limited to: Renewable energy, natural resources, and environment; Agriculture systems and technology; and Agriculture economics and rural communities. $78 million expected to be available, up to 420 awards anticipated. Contact info and due dates vary by subject area. For more info, go to: http://www.nifa.usda.gov/funding/rfas/afri_rfa.html.
Refer to Sol# USDA-NIFA-AFRI-003397. (Grants.gov 1/7/11)

**Special thanks to the Washington State University Extension Energy Program for collecting this information.**

## ENERGY-RELATED EVENTS

- **Photovoltaic Installation and Inspections**
  April 21, 2012 7:30 a.m. – 3:30 p.m. – Mesa, Arizona
- **Greentech Media's Solar Summit 2012**
  May 1 – 2, 2012 – Phoenix, Arizona
- **NEPA and EIS Compliance - Tips And Techniques to Navigate Today's NEPA/EIS Landscape**
  May 8, 2012 – Renaissance Phoenix Downtown Hotel, Phoenix, Arizona
- **World Renewable Energy Forum**
  May 13 – 17, 2012 – Denver, Colorado
- **Solar Power Mexico 2012**
  May 15 – 16, 2012 – Mexico City, Mexico
- **Cleantech Phoenix**
  Int'l. Business Symposium
  May 16- 18, 2012 – Phoenix, Arizona
- **Renewable Energy Projects in Indian Country Conference**
  May 21 – 22, 2012 – Talking Stick Resort, Scottsdale, Arizona
- **West Coast Energy Management Congress**
  May 23 – 24, 2012 – Washington State Convention & Trade Center, Seattle Washington
- **Meeting the Energy Needs of the 21st Century**
  June 7, 2012 – Tucson, Arizona

- **2012 Arizona Mexico Commission Summer Plenary**
  June 7 – 8, 2012 – JW Marriott Starr Pass Resort & Spa, Tucson, Arizona

- **Energy In the Southwest – New Directions in Energy Markets & Regulation**
  July 9 – 10, 2012 – Santa Fe, New Mexico

- **2nd International Conference on Algal Biomass, Biofuels and Bioproducts**
  June 10 – 13, 2012 – Westin San Diego, San Diego, California

- **2012 National Energy Assurance Conference**
  June 28 – 29, 2012 – Gaylord National Hotel & Convention Center, National Harbor, MD

- **Solar Power International 2012**
  September 10 – 13, 2012 – Orange County Convention Center, Orlando, Florida

- **Plastics in Photovoltaics 2012**
  September 19 – 20, 2012 – Hyatt Regency, Phoenix, Arizona

- **34th International Telecommunications Energy Conference (Intelec)**
  September 30 – October 4, 2012 – Talking Stick Resort, Scottsdale, Arizona

- **Border Energy Forum XIX**
  October 22 – 24, 2012 – Hermosillo, Sonora Mexico

- **AWEA Wind Energy Fall Sympsium**
  November 13 – 17, 2012 – Sheraton Wild Horse Pass Resort, Chandler, Arizona

- **4th PV Power Plants Conference – USA 2012**
  November 28 – 29, 2012 – Phoenix Arizona

- **Green Building Lecture Series**
  Granite Reef Senior Center – 1700 N. Granite Reef Road, Scottsdale, Arizona